



Tucson International Airport Area Superfund Site Cleanup Update

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • July 2018

Summer 2018 – Summer 2019

Site Background

Tucson International Airport Area (TIAA) site was named a federal Superfund site in 1983. Industrial and U.S. military defense-related activities from the 1940s to the mid-1970s caused groundwater and soil contamination (pollution) at the site. While the site is called TIAA, the site boundaries are from Ajo Way in the north, Hughes Access Road in the south, Alvernon Way on the east, and Interstate 19 in the west. *See figure 1.*

The main chemicals that have polluted groundwater include trichloroethene (TCE), dichloroethene (DCE), chloroform and chromium. Polychlorinated biphenyls (PCBs), chemicals and metals (like lead) have also polluted the soil in some parts of the site that are on Tucson International Airport property.

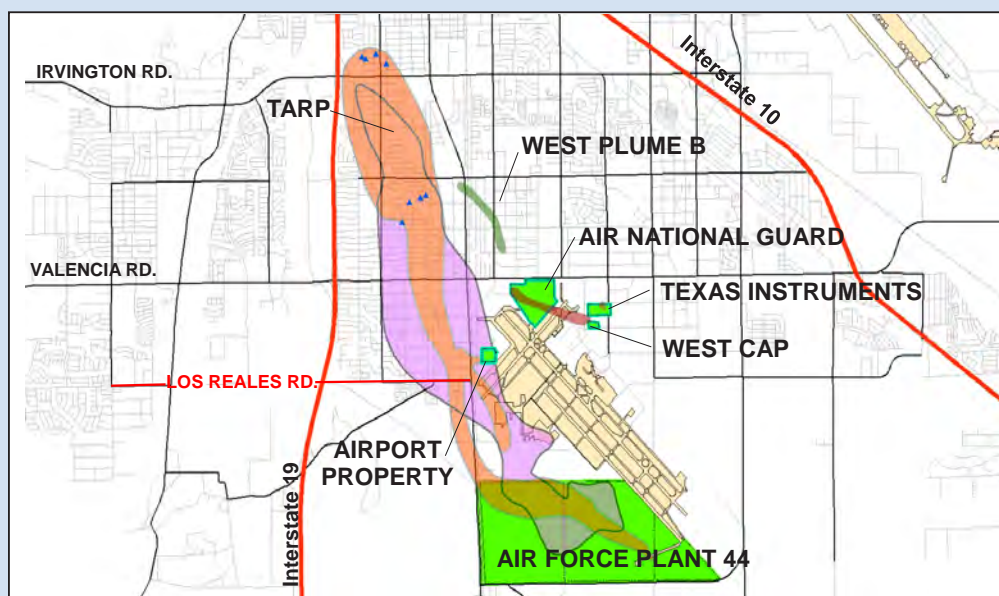
While the site had been polluted by various chemicals, there is no way for residents to come into contact with these

What is a Superfund site?

A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by EPA as a candidate for cleanup because it poses a risk to human health and/or the environment.

chemicals. Access to areas of the site with contaminated soil are restricted, polluted groundwater is closely monitored and treated to all state and federal safe drinking water standards, and polluted soils have been removed from the site to be cleaned up.

For information on possible health effects from contaminants at the site, see the Agency for Toxic Substances and Diseases Registry webpage: www.atsdr.cdc.gov/toxfaqs/index.asp



The TIAA site contains seven major project areas including the:

- Air Force Plant 44 (AFP 44);
- Tucson Airport Remediation Project (TARP);
- Airport Property (including Tucson International Airport and Three Hangers Building);
- 162nd Fighter Wing Arizona Air National Guard (AANG);
- Texas Instruments, Inc. (formerly Burr-Brown Corporation);
- Former West-Cap property; and
- West Plume B.

Figure 1: TIAA Superfund site.



Is My Drinking Water Safe?

Yes. The Tucson Water Department provides water that meets all state and federal drinking water health standards. For more information, please visit: <https://www.tucsonaz.gov/water>

Cleaning Up Groundwater

In 1988, EPA issued a cleanup plan (called a “Record of Decision” [ROD]) to clean up the groundwater. In the ROD, contamination in the groundwater aquifer—an underground layer of water—was divided into two parts: Area A to the west and Area B to the east.

As part of the cleanup plan, three groundwater treatment plants were built. *See figure 2:*

- Tucson Area Remediation Project (TARP) system;
- Tucson Airport Property system; and
- Air Force Plant 44 (AFP 44) system.

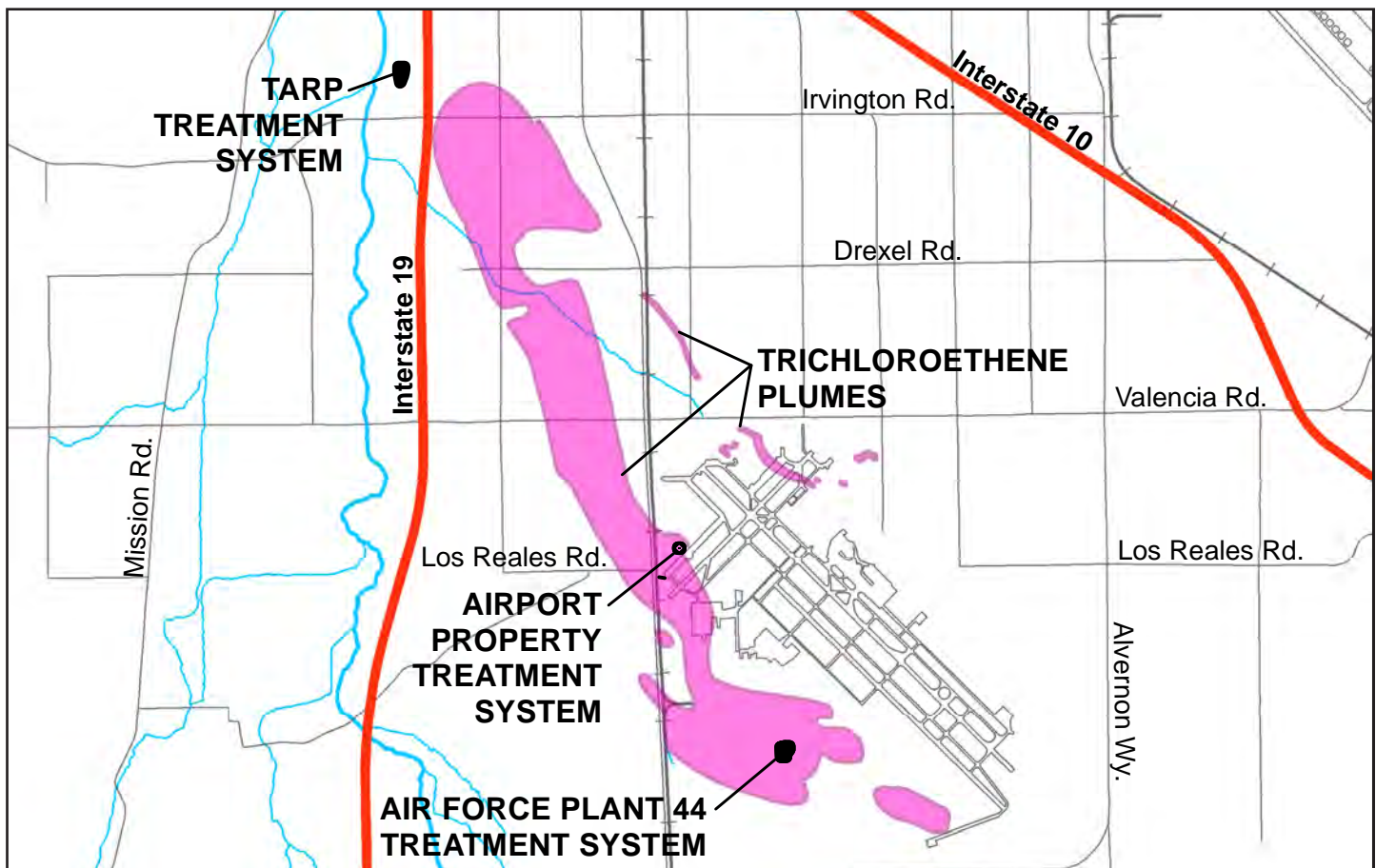


Figure 2: Site boundaries and locations of the plume and three treatment plants.



Photo: TARP Advanced Oxidation Process (AOP) Groundwater Treatment Facility.

After water is treated by the TARP system, it is pumped to a Tucson Water Department drinking water reservoir and then delivered to customers. Water treated by the Tucson Airport Authority and AFP 44 systems is reinjected into the regional aquifer. Groundwater cleanup at TIAA has been ongoing since the cleanup plan was issued in 1989. The three treatment systems have reduced the groundwater plume size and concentrations significantly during nearly 30 years of treatment.

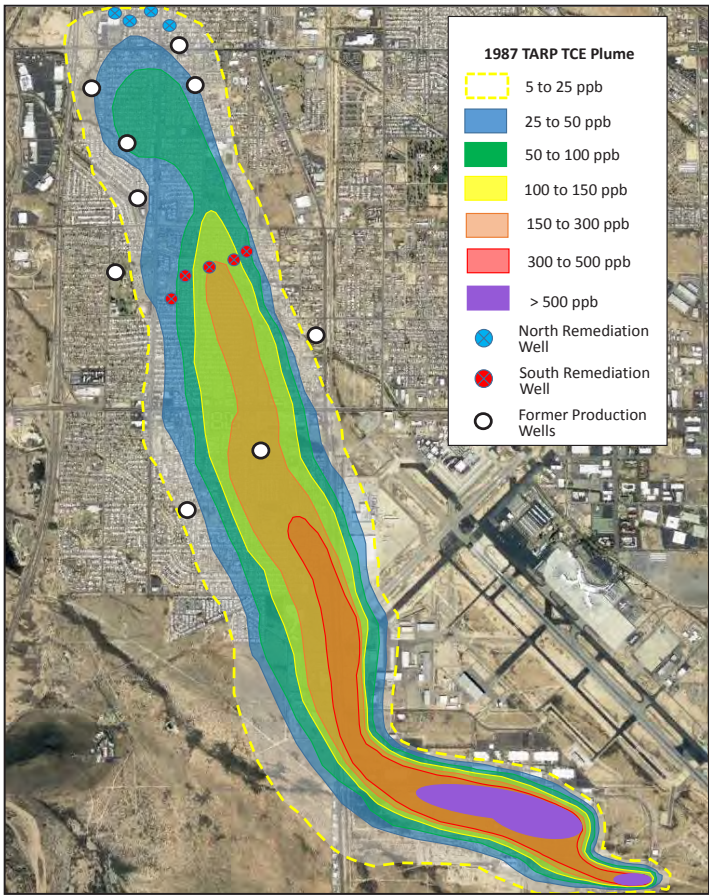


Figure 3: Above is the approximate size, shape, and concentration of one of the main chemicals in the groundwater—trichloroethylene (TCE)—in 1987, two years prior to clean up starting.

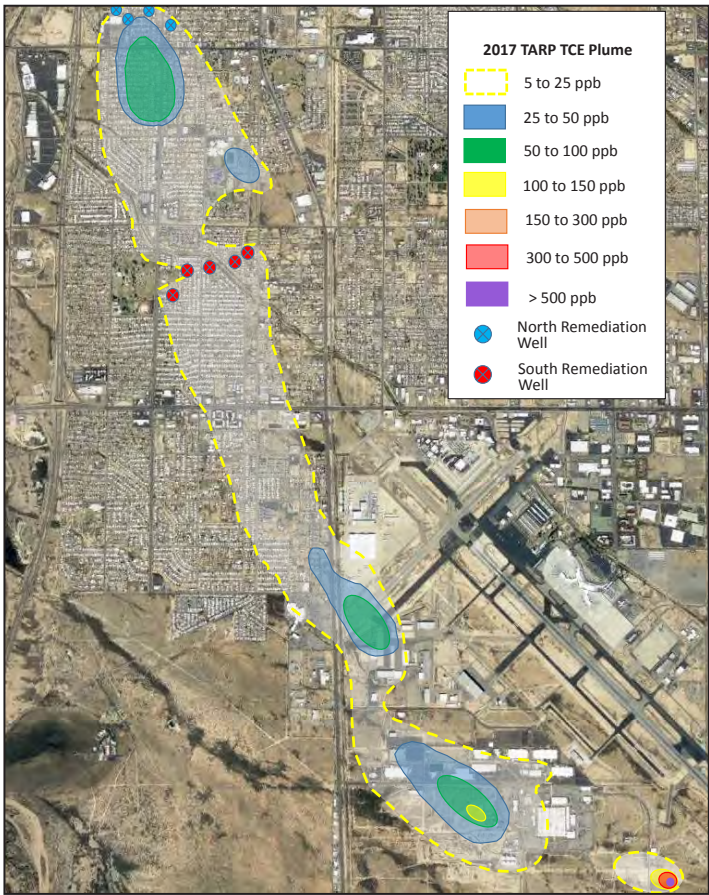


Figure 4: Above is the approximate size, shape, and concentration of TCE in November 2017 after decades of cleanup. The size and concentrations of the TCE has been reduced significantly.

Vapor Intrusion

What is vapor intrusion?

“Vapor intrusion” is the scientific name for the process where chemicals, such as those found at the TIAA site, move from soil and/or water underground and into the air above ground. These chemicals move through “volatilization,” which is, most simply, like evaporation. *See figure 5 to the right.* Through vapor intrusion, these chemicals may move into the indoor air of buildings.

To ensure this was not happening in buildings near TIAA, EPA did three investigations in years past. The studies showed vapor intrusion was not happening at buildings within the boundaries of the TIAA site or nearby TIAA’s boundaries. EPA will continue to evaluate the potential for vapor intrusion at TIAA and conduct future studies if needed.

Past vapor intrusion studies

When the first cleanup plan was developed in 1988, vapor intrusion was not included. This is because scientists then did not fully understand how the chemicals at the site behaved. Since then, great advancements have been made in our understanding of these chemicals.

New understanding of how the chemicals at TIAA behave led EPA to re-review possible areas at TIAA where vapor intrusion may happen. At all sites where vapor intrusion may happen, vapor intrusion is looked for in areas where contaminated groundwater or soil is close to the surface and the chemicals in the groundwater or soil are found in high concentrations.

Portions of Corona Road, the “Three Hangars” area, and the vacant “Elvira lot” area of the site were the only three locations where groundwater was close to the surface and chemicals were present in high concentrations. *See figure 6 to the right for locations.* Vapor intrusion samples from the investigation showed concentrations of the chemicals were either very low (not posing a health risk) or not detected at all. Because these were the three areas that historically had the

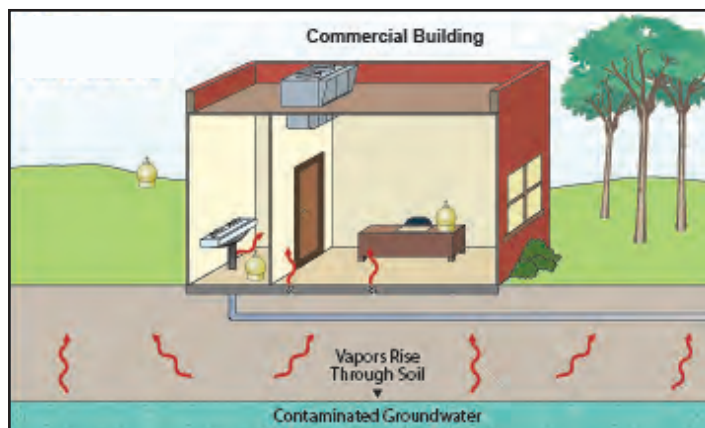


Figure 5: Generalized graphic of how vapor intrusion occurs.

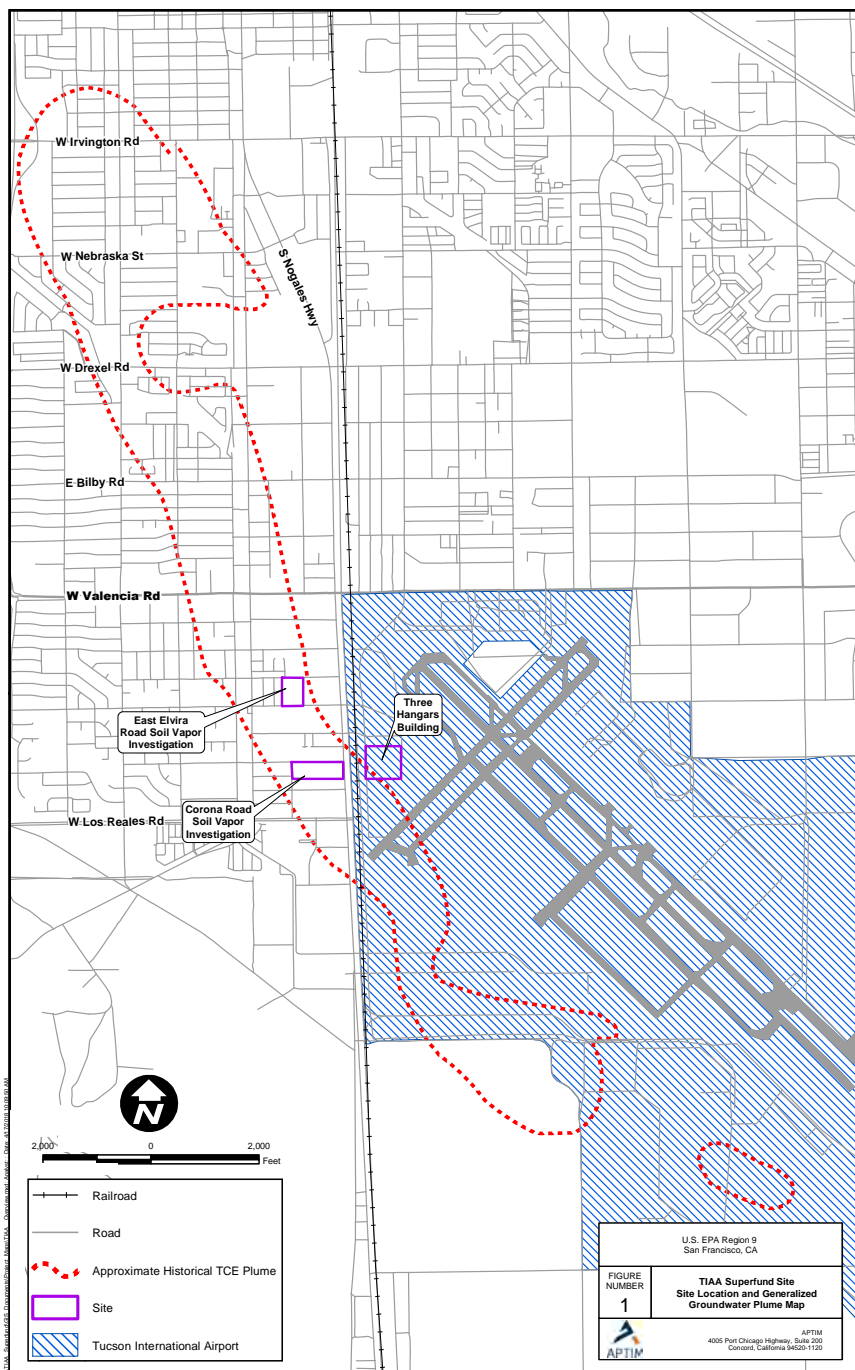


Figure 6: Vapor Intrusion study location.

highest probability for finding vapor intrusion, EPA has a very high level of confidence that vapor intrusion is not an issue at the TIAA site.

Why is vapor intrusion a concern?

When vapor intrusion does occur, it can build up to a point where the health of residents or workers in those buildings could be at risk. The health risk will vary based on the type of chemicals, the levels of the chemical found, the length of exposure and the health of the exposed individual.

Can vapors come from other things aside from contaminated groundwater and soil?

Common household products and manufacturing products can also be a source of indoor air problems. Vapors or gases can come from cleaners, degreasers, paints, new carpeting and furniture, stored fuel, dry cleaned clothing and even cigarette smoke. These levels are usually found in moderation and “off-gas” quickly into the air without creating a health issue.

How is vapor intrusion investigated?

In most cases, collecting soil gas or groundwater samples near the spill site is done first to see if there is on-site contamination. If soil vapors or groundwater contamination is found, soil vapor samples are taken from areas outside the immediate spill site and near any potentially affected businesses or homes. The EPA has conducted three soil vapor investigations related to the TIAA Superfund Site north of Los Reales Road.

Vapor Intrusion Studies and Findings

Study	Date	Location	Findings
Elvira Road	February 2011	Vacant lots on north side of E. Elvira Road near S. 4 th Ave	No chemicals of concern were detected above EPA screening criteria
Corona Road	January 2015	Corona Road and S. Nogales Hwy	No chemicals of concern were detected above EPA screening criteria
Three Hangars Building	January 2015	Three Hangars Building on Airport Property	No chemicals of concern were detected above EPA screening criteria

Five-Year Review of Cleanup Plan

EPA is in the process of doing its third review of the site’s groundwater and soil cleanup plans and cleanup actions for the site. According to Superfund law, if a cleanup takes more than five years to complete, or if hazardous wastes are to be left on site, the cleanup plan will be reviewed every five years. These reviews are called “Five-Year Reviews” and they are done to make sure the cleanup plan is working as it was planned.

As part of EPA's Five-Year Review, EPA will look at:

- the three pump and treat systems that remove the chemical TCE from the groundwater;
- different parts of the soil cleanup, which is on-going; and
- the results of the three soil vapor intrusion studies done at the TIAA site (*described on page 5*), among other items.

The last Five-Year Review was done in 2013. The review found that the cleanup plans were protective of human health and the environment.

EPA wants to hear from you during the review process!

The 2018 five-year review report will be done in September 2018. EPA invites the community to learn more about this review process and provide feedback. Voices from the community and stakeholders are an important part of the review.

As part of the five-year review, EPA interviews community members and stakeholders to hear how the cleanup works for them. If you would like to be interviewed, please contact **Mary Aycock** or **Viola Cooper** before August 31, 2018.

When complete, the five-year review report will be available to the public online, at the local information repository, and at the Superfund Records Center. The addresses and hours of the local information repository and the EPA Superfund Records Center are listed below.

Information Repositories

An information repository is where current information, technical reports, and reference materials regarding a Superfund sites are stored. EPA or the State establishes the repository in the community at the beginning of the site studies to provide the public with easily-accessible information. Copies of cleanup documents are available to the public for viewing at the following locations:

Valencia Library

202 W. Valencia Road
Tucson, AZ 85706
(520) 594-5390

Hours:

Monday–Thursday	10:00 a.m.–8:00 p.m.
Friday	10:00 a.m.–5:00 p.m.
Saturday	9:00 a.m.–5:00 p.m.
Sunday	1:00 p.m.–5:00 p.m.

EPA Superfund Records Center

75 Hawthorne Street
San Francisco, CA 94105
(415) 947-8717

Hours:

Monday–Friday	8:00 a.m.–5:00 p.m.
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HOW TO STAY INVOLVED

We want to make sure the community has opportunities to learn about, ask questions, and stay involved as site work moves forward.

Technical Assistance Services for Communities (TASC)

This EPA program provides independent assistance through an EPA contract to help communities better understand the science, regulations and policies of environmental issues and EPA actions. The TASC program conducted a Technical Assistance Needs Assessment (TANA) for the community. The TANA helped EPA and the community better understand the current technical assistance needs of the TIAA site community related to the site cleanup.

TASC had conversations to develop the TANA with community members and other stakeholders from October to November 2017. Participants shared a variety of concerns related to the community's potential technical assistance needs. The main concern raised by participants was that public awareness and understanding of the Superfund site and cleanup process is limited. Participants provided potential explanations for why awareness and understanding may be low at the site. They also offered potential solutions to increase and improve public awareness and engagement.

On March 28, 2018, TASC hosted a TANA prioritization meeting with participants in Tucson, Arizona. At the meeting, the top needs were identified and prioritized and they are:

- Provide in-person workshops/presentations and fact sheets about Superfund topics. Fact sheets should be in plain English and Spanish, and include visuals and maps.
- Coordinate and host regularly-scheduled quarterly conference calls with community members to encourage community-agency interaction and continue to gather information on community needs.
- Provide additional meeting support to the UCAB with a focus on potential renewal of and updates to the UCAB charter, meeting structure, outreach methods (including website) and membership. This could include providing plain language support for the technical presentations shared by consultants so that the information can be more easily disseminated to the general public.

For the complete report, please visit the website at: www.epa.gov/superfund/tucsonairport

Or visit the Information Repository. *See page 6 for more information.*

Unified Community Advisory Board

To provide community members with an opportunity to learn about the cleanup process and to share local perspectives on the cleanup, a **Unified Community Advisory Board (UCAB)** was formed in 1995. The meeting is open to the public.

The UCAB meets the third Wednesday of January, April, July, and October. The meetings start at 5:45 p.m. at:

El Pueblo Senior Center
101 W. Irvington Road,
Tucson, AZ 85706

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You may also call EPA's toll-free Superfund hotline and leave a message that will be forwarded to the EPA staff listed above. The hotline number is 1-800-231-3075.

For more information on the Tucson International Airport Superfund site and to view site documents, please visit: www.epa.gov/superfund/tucsonairport

For more information on EPA's Superfund program, please visit: www.epa.gov/superfund



If you have questions or comments regarding TIAA, please contact:

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For More Information

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